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PHOTOGRAPHIC INTERPRETATION REPORT

CHRONOLOGY OF LENINGRAD ARMAMENTS AND TANK PLANT BOLSHEVIK 232 USSR

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PHOTOGRAPHIC INTERPRETATION REPORT

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CHRONOLOGY OF LENINGRAD ARMAMENTS AND TANK PLANT BOLSHEVIK 232 USSR

FEBRUARY 1968

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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INTRODUCTION

This report is a chronological study of the Leningrad Armaments and Tank Plant Bolshevik 232 The plant is located on the west bank of the Neva River in southeastern Leningrad, USSR, approximately 6 nautical miles from the center of the city at 59-52N 030-29E (Figure 1). All plant buildings are contained in an area measuring 6,000 by 2,000 feet at the widest points and covering a total of approximately 225 acres (Figures 2 and 3). The area is walled on 3 sides, the unwalled east side fronting on the Neva River. Rail transportation is provided by a spur extending to the plant from the main rail line to Leningrad, and the river makes the plant accessible towater transportation. Part or perhaps all electric power needs may be supplied by the Leningrad Thermal Power Plant Krasnyy Oktyabr Bres 5 which is located directly across the river from the plant.

Collateral sources state that Plant 232 has been in existence since before the Russian Revolution of 1917, with some of the buildings dating back to 1885. 1/ Collateral information on production dates from 1940 and extends through 1956. There is evidence that the plant was involved in gun production, apparently with emphasis on naval weapons during the entire 1940-1956 period. Other production reportedly has included forgings, castings, gears for tractors, special steels, and equipment for the petroleum industry. 2/

Collateral information has indicated that the Leningrad Plant 232 has a branch in Vladivostok which has been involved in the past with the installation and repair of naval guns (on ships and for coastal defense) in the Soviet Far East. In additon, there is past evidence that Plant 232 has had related establishments on the Black Sea, the Baltic Sea, and possibly the White Sea. 1/ These relationships suggest that Plant 232 may be a headquarters for certain naval weapons systems.

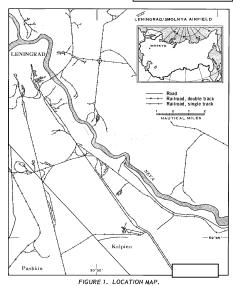
Recent collateral information suggests that Plant 232 is involved in the Soviet Guided Missile Program. 3/ Photographic evidence of extensive new construction and renovations in the southern half of the plant in recent years suggest that sections of Plant 232 may have been adapted to a new type of production. A high-bay probable assembly building (item 100, Figure 2) and a probable fabrication/assembly building with a possible checkout tower ______ in height (item 98) further define the probable new type of production

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as possibly missile related. Ground photography of the possible checkout tower (item 98) and the high-bay probable assembly building (item 100) is presented on Figure 4. A ground photo partial view and a perspective drawing of the probable fabrication/assembly building with the possible checkout tower is presented on Figures 5 and 6 respectively.

The construction chronology of Plant 232, derived from all available photography, is presented in Table 1 and Figure 2. This table also provides functional designations or descriptions and dimensions of the principal structures. Measurements are accurate within plus-or-minus 10 feet or 10 percent, whichever is greater. The numbered items in the table are keyed to the line drawing on Figure 2 and to selected items on the ground photographic mosaic, Figure 4. Highlights of the chronology are presented in narrative form in the following section of this report.

Photographic coverage used in developing this chronology spans a period of 25 years,



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(Figure 7), and Figure 8) photography. The small scale of some of the photography, nonstereo coverage in some instances, and limiting conditions such as snow, haze, and shadows have inhibited interpretation of some details of the plant. Roads, rail spurs, and pipelines have been depicted on Figure 2 in the maximum detail permitted by the photography; however, no attempt has been made to compile a chronology of these features because of the poor interpretability of much of the coverage.

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Roof coverage of Plant 232 added or renovated since comprises approximately 33 percent of the total roof coverage of 2,992,680 square feet. Roof cover added during each color-coded time period includes 253,325 square feet for the feet for the period, and 44,080 square feet still under construction in In addition, approximately 25 acres have been added to the plant grounds since

CHRONOLOGICAL HIGHLIGHTS

1942 - 1956

The earliest available photographic coverage of Plant 232 is This photography is presented on Figure 8 for purposes of comparing the status of the plant in 1942 with its status in 1967 as shown photography, Figure 3. Collateral sources report that the plant was evacuated in photography shows no apparent plant operations or construction. Resupply of machinery reportedly began in early 1946, and by the plant was reported to be 80 percent "rebuilt." 1/ photography of the plant, obtained on was of fair interpretability and is presented on Figure 7 for purposes of comparison with the 1942 and 1967 coverage. The 1956 photography reveals little new construction, but it does show that extensive renovation had been accomplished on the heat treatment and fabrication/assembly building (item 60) and on the machine shop and fabrication building

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FIGURE 2. LAYOUT OF THE LENINGRAD ARMAMENTS AND TANK PLANT BOLSHEVIK 232.

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Item	Function/Description	Dimensions (ft) L W	Roof Cover (sq ft)	Date Observed**	Explanatory Notes	Item	Function/Description	Dimensions (ft) L W	Roof Cover (sq ft)	Date Observed**	Explanatory Notes
1	Prob admin bldg				Hip-roofed, multistory, irregular bldg; sq ft added to W side of bldg by sq ft added to SW corner by	55 56	Support bldg Support bldg				Bldg may be rail served
2 3 4	Prob admin bldg annex Support/storage bldg Support/storage bldg					57 58 59 60	Support bldg Tank Support bldg Heat treatment &				Poss water tank
6 7 8	Support/storage bldg Support/storage bldg Support/storage bldg Support/storage bldg Support/storage bldg						fabrication/asbly bldg				The bldg which occupied the same general area in has undergone & is consinuing to undergo extensive alterations & additions; atterations on bays on the N half of the bldg were made by in the S half of the bldg by
10 11	Support/storage bldg Prob admin/engr bldg Prob admin/engr bldg				Gable-roofed, multistory bldg; roof missing on N half of bldg iz						ground photography from the E site of the bldg by ground photography from shows the long bay measuring on the E site of the bldg to have been in multile stages of constrict constrates and san apparently complete by constrict prob began is on the section in the Six portion & apparent to be mear completion in the Six portion & apparent to be mear completion in the Six portion & apparent to be mear completion in the Six portion & apparent to be section in the Six portion & apparent to be mear completed in the bay on the Six portion and the six portion of the si
13 14	Prob admin/engr bldg Admin/engr support bldg				Small support bldg measuring ft adjacent to SW side of bldg included in total roof cover						bldg measuring 240 x 75 ft was poss complete by prob rail served
15 16 17 18	Storage shed Storage shed Storage/support bldg Support bldg					62 63	Prob shop bldg Receiving/shipping bldg Support bldg				Bay measuring ras added between
20 21	Storage/support bldg Admin/lab bldg Quay Poss machine shop				Aprx 570 fc long Barrel-roofed, apparently single-story bldg; appears to be zail seven	64 65 66 67 68	Support bldg Prob shop bldg Support bldg Support bldg Prob storage bldg				
94	Poss machine shop Prob heat treatment bldg				Hip-roofed bidg with meltistory bay at NE end of bldg Prob clerestory-roofed bldg poss containing a foundry; small support bldg moss uring 45 x 20 ft attached to the SW corner of the bldg by 2 conveyor/pipe galleries included in total roof cover	70 71 72	Prob admin bldg Prob admin bldg Prob shop bldg Prob shop bldg				The bays at the N end of the bldg prob added between
25 26 27	Support bldg Prob admin bldg Fabrication, heat treat- ment, & asbly bldg				Hip-roofed annex to item 23 Prob high-bay ashly soction in N corner measures 180 ft; 2 small bays totaling hsq ft added between 185 fm 1961; bdg may be rail served	73 74 75 76 77	Support bldg Support bldg Support bldg Support bldg Prob shop bldg				
28 29 30 31	Prob shop bldg Prob shop bldg Storage/support bldg Poss quarters				Bldg appears to be similar to item 32 with the exception	78 79 80 81	Support bldg Prob foundry Prob pumphouse Buried tank				of roof area apparently added between
32	Poss quarters				of a hip-roofed wing attached to each end of the T T-shaped, hip-roofed, prob 2-story bldg with apparent roof vents	82 83 84	Buried tank Support bldg Prob storage shed				
33 34 35	Poss quarters Prob harge slip Heat treatment, machine shop, & asbly bldg				Bidg appears to be identical in configuration to item 32 served by an apparent overhead crane Monitor-roofed section measures additional bays comprise 38,655 aq ft of roof coverage; may be mil served.	85 86 87	Prob storage shed Storage/support bldg Prob steel processing bldg				Bldg has butterfly roof; prob involved with preliminary forging of steel & steel alloys from ingots shipped into plant; bldg poss contains alloying fernaces
36 37 38 39	Prob machine shop Support bldg Storage/support bldg Support bldg				rail served	89 90 91 92	Prob storage shed Prob storage shed Transloading/storage bldg Coal preparation bldg				No coal evident
40 41 42 43 44	Support bldg Prob admin bldg Poss engr/lab bldg Prob admin bldg Shop bldg				Bay on E side of bldg measuring t was being	93 94 95 96	Support bldg Support bldg				Plant has prob been converted from prob coal & oil burning to oil burning; roof cover figure includes
45 46	Prob lab/engr bldg Prob rolling mill complex				razed or had been accidentally destroyed when first observed on photography of a new bay had been created by any becam served. Bidg has a gable roof. Rolling mill consists of 4 sections, each with trans-	97 98	Support bldg Prob fabrication/asbly bldg with poss checkout tower				4,450 sq ft of covered conveyer Tower section of bldg was first observed on ground
47	Prob shop bldg				verse-monitor toofs, totaling sq ft of roof coverage; associated bays total bay on SN portion of bilg measuring was prob complete by E side of bilg has aprx 10 low sheds attached to it &						photography of when it was aprx 9/3 complete; ground photography of suggests tower section is receiving final constructed to the photography of shows bldg to be complete; poss checkent tower measures
48	Support bidg				appears to be rail served; 4 sheds were added by An additional small section was added in the period	99					high; see Figures 5 & 6 Ground photography of shows constr just
49 50 51 52	Support bldg Prob shop bldg Prob shop bldg Prob machine shop				Small bay on NE corner measuring ft added some-	100	a ross assury usung				under way; on ground photography of the grider frame & roof supports have been exceed; the bidg appears to be complete & operational on photography (alknowledge) although ground photography taken on the property of the pro
53	Machine shop & fabrication bldg				When first observed on photography of bidg covered aprx the same assount of area that it covers on photography of bloover, altered roof con-	101					type constructing place on the SE high-hay section; bldg is road served; (height measurements: SW high bay, SE high bay, low bay on N side,
					or perceptions indicate the bidg unders ent extensive remodeling after removations adding a fit to bidg had asken place by removations adding land \$88,915 as ft by cone of oding on Fig. 2, prob rail served	102 103 104 103	Guardhouse/quarters Receiving/shipping bldg				Road served
	Support bldg est overall dimension of an i										

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 **Complete when first observed unless otherwise stated in Explanatory Notes.

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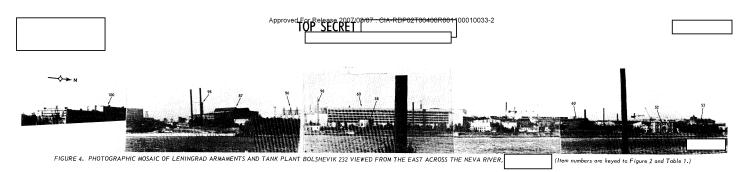
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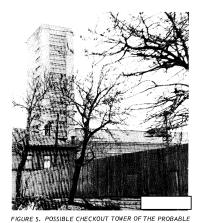


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FABRICATION/ASSEMBLY BUILDING VIEWED FROM THE SOUTH. (See item 98, Figures 2 and 4.)

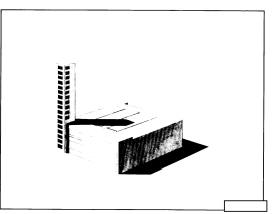


FIGURE 6. PERSPECTIVE DRAWING OF THE PROBABLE FABRICATION/ASSEMBLY BUILDING WITH A POSSIBLE CHECKOUT TOWER. (See item 98, Figure 2.)

(item 53), both in the east-central portion of the plant. The support area at the northern extreme of the plant area (comprising items 1 through 10) was probably annexed during this period.

1957 - 1964

The greatest amount of new construction and renovation occurred during this period. The machine shop and fabrica-

tion building (item 53) underwent further renovation, and the heat treatment and fabrication/assembly building (item 60) also underwent further renovation as well as additions. The roof area of a probable foundry (item 79) was more than doubled with the construction of additional bays. Construction began and was apparently completed on the probable fabrication/assembly building with a possible checkout/assembly

tower (item 98) and on the probable assembly building (item 100). An area of low ground in the southeastern corner of the plant had been annexed by 1964.

The first		photography i	nterpreta	ble for the							
purposes of plant analysis was obtained on al-											
though the plant had been covered by 4 previous											
missions, beginning in Ground photograph											
obtained on											
and	nas b	een used to su	plement								
coverage of items 60, 98, and 100.											

1965

Renovations were completed on the machine shop and fabrication building (item 53), and a bay was apparently added to a probable rolling mill complex (item 46). Reconstruction of a bay in the southwest portion of the heat treatment and fabrication/assembly building (item 60) began during this period.

1966 - 1967

No new construction was apparent during this period. Reconstruction continued on the bay in the southwest portion of the heat treatment and fabrication/assembly building (item 60).

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IGURE 8. LENINGRAD ARMAMENTS AND TANK PLANT BOLSHEVIK 232

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